Nonuniform Convergence on Any Open Subset

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We consider the classical problem of finding sequence of functions which converges pointwise to 0, but not uniformly on any compact subset. We introduce the so called height function in order to study the problem systematically. We examine some properties restricting what a height function associated to a continuous function might be. Next we show that some of these properties could not be made more restrictive, and in a sense show that a large set of sequences satifies an extreme form of them.

References

[1] Piotr Biler and Alfred Witkowski, Problems in mathematical analysis, 1990, ISBN 0-8247-8312-3

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